

## **Cell-autonomous immunity**

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### **Lecture layout**

1. Reminder: How pattern recognition receptors work
2. Cell autonomous immunity against viruses
  - Interferon production (PRRs, IKK family kinases, IRF, NFkB, ubiquitylation)
  - Interferon signalling (Jak STAT principle)
  - The antiviral state
  - Effector mechanisms of the antiviral state
3. Cell autonomous immunity against bacteria
  - Bacteria in vesicles
  - Cytosolic bacteria
  - Autophagy
  - How bacteria escape from cytosolic immunity
  - How cells deal with bacteria that have escaped from autophagy

### **Recommended reading**

Flannagan, R.S., Cosío, G., and Grinstein, S. (2009). Antimicrobial mechanisms of phagocytes and bacterial evasion strategies. *Nat Rev Micro* 7, 355–366.

MacMicking, J.D. (2012). Interferon-inducible effector mechanisms in cell-autonomous immunity. *Nat. Rev. Immunol.* 12, 367–382.

Randow, F., MacMicking, J.D., and James, L.C. (2013). Cellular self-defense: how cell-autonomous immunity protects against pathogens. *Science* 340, 701–706.